



# Lymphedema

## Overview

Lymphedema refers to swelling that generally occurs in one of your arms or legs. Sometimes both arms or both legs swell.

Lymphedema is most commonly caused by the removal of or damage to your lymph nodes as a part of cancer treatment. It results from a blockage in your lymphatic system, which is part of your immune system. The blockage prevents lymph fluid from draining well, and the fluid buildup leads to swelling.

While there is presently no cure for lymphedema, it can be managed with early diagnosis and diligent care of your affected limb.

## Symptoms

Lymphedema signs and symptoms, which occur in your affected arm or leg, include:

- Swelling of part or all of your arm or leg, including fingers or toes
- A feeling of heaviness or tightness
- Restricted range of motion
- Aching or discomfort
- Recurring infections
- Hardening and thickening of the skin (fibrosis)

The swelling caused by lymphedema ranges from mild, hardly noticeable changes in the size of your arm or leg to extreme changes that make the limb hard to use. Lymphedema caused by cancer treatment may not occur until months or years after treatment.

## When to see a doctor

Make an appointment with your doctor if you notice persistent swelling in your arm or leg.

If you already have the diagnosis of lymphedema of a limb, see your doctor if there is a sudden dramatic increase in the size of the involved limb, as it may suggest a new process is occurring.

## Causes

Your lymphatic system is crucial to keeping your body healthy. It circulates protein-rich lymph fluid throughout your body, collecting bacteria, viruses and waste products. Your lymphatic system carries this fluid and harmful substances through your lymph vessels, which lead to lymph nodes. The wastes are then filtered out by lymphocytes — infection-fighting cells that live in your lymph nodes — and ultimately flushed from your body.

Lymphedema occurs when your lymph vessels are unable to adequately drain lymph fluid, usually from an arm or leg. Lymphedema can be either primary or secondary. This means it can occur on its own (primary lymphedema), or it can be caused by another disease or condition (secondary lymphedema). Secondary lymphedema is far more common than primary lymphedema.

## Causes of secondary lymphedema

Any condition or procedure that damages your lymph nodes or lymph vessels can cause lymphedema. Causes include:

- **Surgery.** Removal of or injury to lymph nodes and lymph vessels may result in lymphedema. For example, lymph nodes may be removed to check for spread of breast cancer, and lymph nodes may be injured in surgery that involves blood vessels in your limbs.
- **Radiation treatment for cancer.** Radiation can cause scarring and inflammation of your lymph nodes or lymph vessels.
- **Cancer.** If cancer cells block lymphatic vessels, lymphedema may result. For instance, a tumor growing near a lymph node or lymph vessel could enlarge enough to block the flow of the lymph fluid.
- **Infection.** An infection of the lymph nodes or parasites can restrict the flow of lymph fluid. Infection-related lymphedema is most common in tropical and subtropical regions and is more likely to occur in developing countries.

## Causes of primary lymphedema

Primary lymphedema is a rare, inherited condition caused by problems with the development of lymph vessels in your body. Specific causes of primary lymphedema include:

- **Milroy's disease (congenital lymphedema).** This disorder begins in infancy and causes lymph nodes to form abnormally.
- **Meige's disease (lymphedema praecox).** This disorder often causes lymphedema around puberty or during pregnancy, though it can occur later, until age 35.
- **Late-onset lymphedema (lymphedema tarda).** This occurs rarely and usually begins after age 35.

## Risk factors

Factors that may increase your risk of developing lymphedema after cancer, from cancer treatment or from other secondary causes include:

- Older age

- Excess weight or obesity
- Rheumatoid or psoriatic arthritis

## Complications

Lymphedema in your arm or leg can lead to serious complications, such as:

- **Infections.** Possible infections that can result from lymphedema include a serious bacterial infection of the skin (cellulitis) and an infection of the lymph vessels (lymphangitis). The smallest injury to your arm or leg can be an entry point for infection.
- **Lymphangiosarcoma.** This rare form of soft tissue cancer can result from the most-severe cases of untreated lymphedema. Possible signs of lymphangiosarcoma include blue-red or purple marks on the skin.

## Prevention

If you have had or you are going to have cancer surgery, ask your doctor whether your procedure will involve your lymph nodes or lymph vessels. Ask if your radiation treatment will be aimed at lymph nodes, so you'll be aware of the possible risks.

To reduce your risk of lymphedema, try to:

- **Protect your arm or leg.** Avoid injury to your affected limb. Cuts, scrapes and burns can invite infection. Protect yourself from sharp objects. For example, shave with an electric razor, wear gloves when you garden or cook, and use a thimble when you sew. If possible, avoid medical procedures, such as blood draws and vaccinations, in your affected limb.
- **Rest your arm or leg while recovering.** After cancer treatment, exercise and stretching are encouraged. But avoid strenuous activity until you've recovered from surgery or radiation.
- **Avoid heat on your arm or leg.** Don't apply ice or heat, such as with a heating pad, to your affected limb. Also, protect your affected limb from extreme cold.
- **Elevate your arm or leg.** Whenever possible, elevate your affected limb above the level of your heart.
- **Avoid tight clothing.** Avoid anything that could constrict your arm or leg, such as tightfitting clothing and, in the case of your arm, blood pressure cuffs. Ask that your blood pressure be taken in your other arm.
- **Keep your arm or leg clean.** Make skin and nail care high priorities. Inspect the skin on your arm or leg daily, watching for changes or breaks in your skin that could lead to infection. Don't go barefoot.

By Mayo Clinic Staff

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